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Microstructure image processing with automatic analyzer tools imageexpertpro 3

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Abstract

This article is devoted to the study of cast iron microstructure and its analysis, as well as to the measurement of various parameters for an image as a whole and the individual objects of the structure using computer-based research methods. Automatic image analyzers (AIA) were very popular in 70-ies of the last century. This is conditioned to the fact that such products contribute to significant reduction of time costs and process complexity during the processing and the calculation of an analyzed image characteristics.1 Modern AIA contain tools, the principle of which is not always clear to a user. In this regard, it is important to study the functions of such tools in order to use them during operation as effectively as possible.2 In particular, this work will consider the tools of the directed action "Binarization", "Spectral filter - stat. differentiation" and "Qualitative filters". AIA Image ExpertPro-3. The choice of the software product is dictated by its availability also in the laboratory of NCHI(f) K(P)FU department. The relevance of the work is conditioned by the need to obtain effective tools and techniques for different material structure analysis, including cast iron.

Keywords

Automatic image analyzer, Cast iron, Digital image processing, Filter, Graphite, Quantitative analysis

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